

Rec'd PCT/PTC 20 AUG 2004
PCT/EP 03 / 50035 #2



Europäisches
Patentamt

European
Patent Office

Office européen
des brevets

REC'D 19 MAY 2003

WIPO

PCT

Bescheinigung

Certificate

Attestation

Die angehefteten Unterla-
gen stimmen mit der
ursprünglich eingereichten
Fassung der auf dem näch-
sten Blatt bezeichneten
europäischen Patentanmel-
dung überein.

The attached documents
are exact copies of the
European patent application
described on the following
page, as originally filed.

Les documents fixés à
cette attestation sont
conformes à la version
initialement déposée de
la demande de brevet
européen spécifiée à la
page suivante.

Patentanmeldung Nr. Patent application No. Demande de brevet n°

02100203.5

PRIORITY DOCUMENT
SUBMITTED OR TRANSMITTED IN
COMPLIANCE WITH
RULE 17.1(a) OR (b)

Der Präsident des Europäischen Patentamts;
Im Auftrag

For the President of the European Patent Office

Le Président de l'Office européen des brevets
p.o.

R C van Dijk

Anmeldung Nr:
Application no.: 02100203.5
Demande no:

Anmeldetag:
Date of filing: 28.02.02
Date de dépôt:

Anmelder/Applicant(s)/Demandeur(s):

AGFA-GEVAERT N.V.
Seydeweg 27
13640 Mortsel
BELGIQUE

Bezeichnung der Erfindung/Title of the invention/Titre de l'invention:
Falls die Bezeichnung der Erfindung nicht angegeben ist, siehe Beschreibung.
(If no title is shown please refer to the description.
(Si aucun titre n'est indiqué se référer à la description.)

Method for rendering two output formats simultaneously

In Anspruch genommene Priorität(en) / Priority(ies) claimed / Priorité(s)
 revendiquée(s)
 Staat/Tag/Aktenzeichen/State/Date/File no./Pays/Date/Numéro de dépôt:

Internationale Patentklassifikation/International Patent Classification/
Classification internationale des brevets:

G06T11/00

In Anmeldetag benannte Vertragsstaaten/Contracting states designated at date of
filing/Etats contractants désignées lors du dépôt:

AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

- 1 -

[ABSTRACT]**METHOD FOR RENDERING TWO OUTPUT FORMATS SIMULTANEOUSLY**

A method for generating output data in a first and in a second output format simultaneously from input data by a renderer. The method includes dividing the input data into a plurality of bands and for each specific band out of the plurality of bands: generating the output data in the first output format for the specific band and generating the output data in the second output format for the specific band.

- 2 -

[DESCRIPTION]

As formats of imaging devices are increasingly getting bigger, and as the performance and reliability of a pre-press system are very important characteristics, new, optimized algorithms are required to maintain acceptable throughputs on standard hardware.

The rendering process, i.e. the translation from page description languages like Postscript or PDF to rastered output formats, for proofing and final output, is a very cumbersome process.

The invention implements a system where the renderer (aka the rip) will generate two output formats virtually simultaneously. The main output, typically intended for high resolution (e.g. 2400 dpi) monochrome (color separated) binary marking engines (screened output) and the auxiliary output (e.g. 720 dpi, contone, color managed, composite), typically used for proofers are generated at the same time.

To guarantee a completely consistent output for proofing, the proof output is preferably generated from the high resolution screened data intended for the main output device (CTP, CTF) by processing the screened data; this may involve descreening, zooming, color managing the screened data.

In prior art implementations, the main output is first stored on disk on a plane by plane basis (typically first the cyan separation is generated, followed by magenta, yellow, black and optionally the spot colors) and when requesting the proof, the main output data is read from disk (as mentioned, typically data for four color planes and for an additional plane per spot color), separations are recombined and the earlier described processing operations are done. The result is output to the proofer engine.

The invention preferably implements a special mode in the renderer that allows for the generation of bands of planar data. A band covers a subset of the data, so that all data belong to exactly one of the bands into which the data are divided. Typically, a first band of cyan is initially generated, then a first band of magenta, a first band of yellow, a first band of black, and optionally first bands for each separated spot color. After all the separations for the first band are generated in memory, the proofing processing (recombination, descreening, etc.) can start working on the first band and store the processed proofing data on disk or send it immediately to the proofer. Then, the process is repeated to generate a second band, and so on until all data are generated.

The major advantages are performance improvements and absolute guarantee that the output of the proofer will emulate exactly the final output.

- 3 -

[CLAIMS]

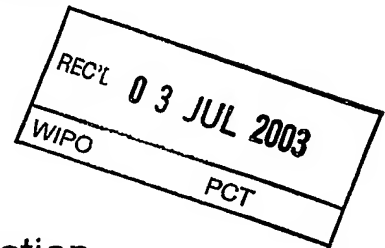
1. A method for generating output data in a first and in a second output format simultaneously from input data by a renderer, the method comprising the steps of:
 - dividing said input data into a plurality of bands;
 - for each specific band out of said plurality of bands:
 - i) generating said output data in said first output format for said specific band by said renderer;
 - ii) generating said output data in said second output format for said specific band by said renderer.
2. The method according to claim 1, further comprising the steps of:
 - sending said output data in said first output format to a main output device;
 - sending said output data in said second output format to a proofing device.
3. A data processing system comprising means for carrying out the steps of the method according to claim 1 or claim 2.
4. A computer program comprising computer program code means adapted to perform the steps of the method of claim 1 or claim 2 when said program is run on a computer.
5. A computer readable medium comprising program code adapted to carry out the method of claim 1 or claim 2 when run on a computer.



**Europäisches
Patentamt**

**European
Patent Office**

**Office européen
des brevets**



Bescheinigung

Certificate

Attestation

Die angehefteten Unterla-
gen stimmen mit der
ursprünglich eingereichten
Fassung der auf dem näch-
sten Blatt bezeichneten
europäischen Patentanmel-
dung überein.

The attached documents
are exact copies of the
European patent application
described on the following
page, as originally filed.

Les documents fixés à
cette attestation sont
conformes à la version
initialement déposée de
la demande de brevet
européen spécifiée à la
page suivante.

Patentanmeldung Nr. Patent application No. Demande de brevet n°

02011830.3

PRIORITY DOCUMENT
SUBMITTED OR TRANSMITTED IN
COMPLIANCE WITH
RULE 17.1(a) OR (b)

Der Präsident des Europäischen Patentamts;
Im Auftrag

For the President of the European Patent Office

Le Président de l'Office européen des brevets
p.o.

R C van Dijk